WORKSHOP SPONSORED BY
NORFOLK DISTRICT, CORPS OF ENGINEERS
Wednesday, September 20, 2000
City Council Chambers, Richmond, Virginia

Statement by James River Basin Association Concerning Need for Study of James River Basin

The Commonwealth of Virginia has a history of droughts resulting in low flow conditions on the streams across the state including the James River. According to information from the U.S. Geological Survey, four major droughts have occurred since the early 1900s: 1930-32, 1938-42, 1962-71, and 1980-82.

The 1980-82 drought was the least severe and also had the shortest duration. Although the recurrence interval of this drought was as low as 15 years over most of the state, the recurrence interval was greater than 80 years in the James River Basin.

Records for stream flow conditions in 1999 show that flows were below the flows observed in the 1980-82 drought and at or near the flows observed in the 1938-42 and 1962-71 droughts. With this historical data, we can expect that droughts will continue to occur.

Droughts have had a serious impact on approximately 100 communities across the state requiring conservation of water. The Richmond area has experienced serious low flow conditions many times including 1999 when the conditions became critical. The low flows in the James River affected the City of Richmond, Henrico County, Chesterfield County, Hanover County, and Goochland County.

Representatives of the James River Basin Association (JRBA) have met with representatives of the Norfolk District, Corps of Engineers, to discuss the scope, funding, and schedule of a water supply study of the Upper James River Basin above the fall line. The primary concern of the JRBA is the historical low flow conditions in the James River and its tributaries. With low flow conditions predicted to reoccur in the future, there is a justified need for immediate and long range action to address the potential impact on public water supplies.

With an immediate need, a focus of the study should be specific solutions to the low flow problem. The Corps is requested to consider an immediate solution which would include reviewing the "operational plan" for the Gathright project. This could include raising the normal pool elevation and varying the flows during low flow conditions to insure adequate water levels immediately below the dam as well as downstream in the vicinity of Lynchburg and Richmond during periods of severe drought as we have experienced the past three years. Immediate action is needed on this item to meet low flow conditions that may be experienced in the future.

Although river flows have been close to drought of record for the past few summers, the low flow conditions would have been even more critical without the input of flows from Gathright Dam. With the proven value of Gathright Dam in supplementing flows, another dam should be considered.

As a long-term solution, the Corps is requested to review the Hipes Dam project on Craig Creek with a study to justify this project or other potential sites considered in the past. The Hipes Dam would be located 14.8 miles from the mouth of Craig Creek in Botetourt County and would control 327 square miles of drainage area with a 4540-acre lake. The Hipes Dam project would flood some 20 miles of Craig Creek but the project would provide excellent recreational facilities in addition to flood control, improved water quality, and the protection of public water supplies during low flow periods. The increased flows downstream from the Hipes Dam project will also benefit the many forms of aquatic life from fish to microscopic organisms.

The James River Basin Association is committed to the wise use and conservation of the natural resources in the basin while meeting the needs of those who live and work in the basin. A safe drinking water supply is essential and requires adequate water flows throughout the year. The demand for water will continue to increase so it is imperative to plan for the future. The Gathright Dam project is an excellent example of the wide ranging benefits that such a project can provide. A similar water resource project is needed to meet future needs.

JAMES RIVER BASIN ASSOCIATION

Terrell J. Reid
President

Attachments: 1) Excerpts from James River Basin Report (Draft) by Corps of Engineers – December 1974
2) JRBA 1998 Annual Report

Respond to:

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JAMES RIVER BASIN ASSOCIATION

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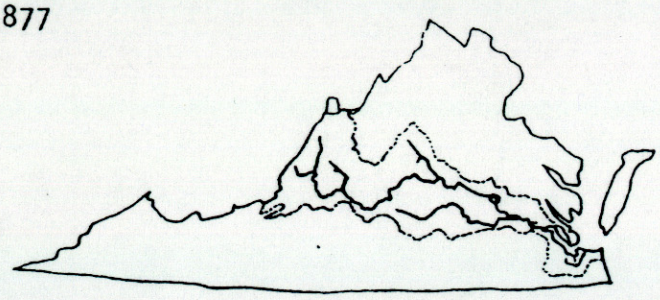
KEEP THE BASIN GREEN



THE HEART OF VIRGINIA

September 16, 1983

To: Hipes Dam Committee
From: Robert L. Green, P.E.

E X C E R P T S

FROM
JAMES RIVER BASIN REPORT (DRAFT)
DECEMBER 1974
PREPARED BY THE
NORFOLK DISTRICT, CORPS OF ENGINEERS
DEPARTMENT OF THE ARMY

SECTION E. FORMULATING AN EFFECTIVE WATER MANAGEMENT PLAN

Paragraph 82. In 1965, Congress authorized the following in the Appalachian Regional Development Act:

"Sec 206. (a) The Secretary of the Army is hereby authorized and directed to prepare a comprehensive plan for the development and efficient utilization of the water and related resources of the Appalachian region.....

Paragraph 83. A large number of projects were considered by the cooperating Federal and state agencies for their potential contribution to the Appalachian water resources plan.....

Paragraph 84. The report of the Secretary of the Army dated April 1971 recommended ten specific reservoir developments.....These are located in 9 of the 13 states comprising Appalachia. One of the projects recommended was Hipes Reservoir on Craig Creek, a headwater tributary of the James River.....

Paragraph 85. The Hipes multi-purpose reservoir development would be located in Botetourt and Craig Counties on Craig Creek about 125 miles upstream from

Richmond and 25 miles north of Roanoke. The lake would practically be within the boundaries of the Jefferson National Forest.....General outdoor recreation in this naturally scenic area would be improved by developing areas around the rim of the proposed 4,500 acre impoundment. A trout rearing station, constructed just downstream of the dam and cost-shared with the Commonwealth of Virginia, would provide game fish throughout the area.....An additional enhancement feature is the establishment of a coldwater fishery in the 14.8 miles of Craig Creek downstream from the dam. With a suitable mixture of cold water and dissolved oxygen being supplied from the multiple-level intake tower at the dam, Craig Creek could become an outstanding stocked trout stream. Six sites of about 2 acres each were planned for public access to the stream. The cost of the project was estimated at $24 million, at July 1967 price levels.

Paragraph 86. On 6 July 1970, the Governor of Virginia wrote to the Secretary of the Army's office concurring with the recommendation that the proposed Hipes Dam and Reservoir Project be authorized by the Congress.....

Paragraph 92.b. At Hipes the subsurface exploration has been fairly extensive. This damsite is located in an area of stable, uniform, tight shales having great thickness and no tendency to solution.

Paragraph 92.d. The presence of extensive National Forest areas immediately adjacent to the Hipes Reservoir would give it a great potential for future development, such as the development of a large park, either state or national.....

Paragraph 95. .....Conservation storage of 115,700 acre-feet in Hipes impoundment was selected on the basis of the project formulation studies. On the basis of this amount of storage for drawdown, the following table shows the increase in flow which would have been provided by Hipes along the James River in the vicinity of Lynchburg and Richmond.

Table E-15. INCREASED FLOW PROVIDED BY HIPES IMPOUNDMENT

Condition	Available flow (a) in cu. ft. per sec. at Lynchburg	Richmond
Naturally	420	750
With Gathright in operation	680	860
With Gathright & Hipes in operation	1,100	1,430

(a) 7-day, 10-yr frequency low flow is shown.

Table E-16. PERTINENT DATA FOR HIPES PROJECT

Location of dam, miles above mouth	14.8
Drainage area, sq. mi.	327
Type of dam	Earth fill
Elevations, ft., m.s.l.	
Top of dam	1,187
Land acquisition	1,180 (a)
Standard project flood	1,176.4
Full flood control pool	1,175
Crest of spillway	1,143
River bed	1,013
Reservoir area, acres	
Spillway design flood	5,630
Land acquisition	8,790
Maximum conservation pool	4,540
Storage, acre feet	
Flood control	73,300
Conservation	115,700
Inactive (b)	115,700
Total	304,700

(a) Or 300 ft. horizontally from 1175 contour, including land for recreation.
(b) Includes 6,200 acre feet sediment storage.

Paragraph 97. Since passage of the Federal Water Pollution Control Act of 1972, the Environmental Protection Agency has recommended against counting on the benefits attributable to water quality control.....Thus the project lacks economic feasibility and is not warranted for construction at this time by the Federal government.

Paragraph 98. .....Although not now warranted for construction, it may be desirable to preserve the site by the purchase of the necessary land so that the area will not be developed substantially either by homes, commercial establishments or highways and thus be lost for development by future generations.

Paragraph 99. Further details pertinent to the investigation made for the Hipes impoundment are contained in the report entitled "Development of Water Resources in Appalachia, Volume 6, Part III, Project Analyses," October 1969. Request for copies for purchase or loan may be made to the Ohio River Division, Corps of Engineers, P. O. Box 1159, Cincinnati, Ohio 45201. Technical colleges in Virginia and some of the libraries in the major cities also have copies for reference.